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PATENT



SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in Vapour Lighters.

I, FREDERIC ALEXANDER ALLEN EVANS, of 30, Broderick Road, Wandsworth Common, S.W., Clerk, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 In an appliance, herein called a vapour lighter, for producing a flame by causing sparks generated by friction to impinge on a wick saturated with petrol or like fuel, ignition in a current of air is more certain and the flame less liable to extinction, when the sparks are generated within a chamber which also contains the wick and is closed save for the opening through which access is had to the flame.

10 This chamber should be separate from that containing the fuel and for this purpose the chamber has been formed by a diaphragm which is either a transverse partition in the tube constituting the body of the lighter, or the closed end of a second tube slid into the body tube; in each case the material saturated with petrol is on one side of the diaphragm through which the wick extends.

15 It is to this particular form of vapour lighter having the spark generator and wick within a chamber formed by a diaphragm that the present invention relates.

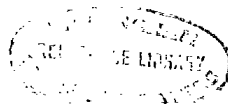
20 Hitherto the ignition in this form has been by means of relative sliding movement between the scraper and the so-called flint, the inner tube being slid into the outer tube to produce the sparks.

25 By the present invention the well known friction wheel turning on a pin is adapted as the scraper by mounting the pin in the plate that closes the body tube or in lugs on the side of this tube, the wheel turning in a slot so that it extends into the tube to abrade the flint mounted therein.

I have shown in the accompanying drawings axial sections of two vapour lighters each having an ignition chamber formed by a diaphragm and a wheel scraper mounted in accordance with the invention.

30 Referring to Fig. 1, the vapour lighter comprises an inner tube *a* fitting closely in an outer tube *b*, so as to turn therein. The outer end of the inner tube has a milled head *c* by which it can readily be turned to bring into register with each other the lateral opening *d* in each tube, this being the position shown in Fig. 1. By turning the tube *a* through a suitable angle, say one of 90°, the opening in the inner tube becomes wholly out of register with that in the outer tube and the chamber *e*, formed in the outer end of the inner tube by the diaphragm *f*, is closed. The part of the tube *a* on the other side of this diaphragm is packed with absorbent material *g* and the wick tube *h* extends

[Price 6d.]



through the diaphragm, the wick being embedded at its inner end in the absorbent material.

According to this invention the friction wheel i is mounted to turn on a pin carried in the head c and its milled periphery bears against the usual flint k mounted within the tube a and urged against the wheel by a spring l adjustable by a screw m , in the known manner. 5

Normally the relative angular position of the tubes a and b is that in which the openings d are closed. For use the inner tube is turned into the position shown, the movement being governed by one end of a notch a^1 at the bottom of tube a engaging with a stop b^1 on the tube b . The wheel is then rotated by the finger, as usual, whereby sparks are generated and ignite the wick. To saturate the absorbent material, tube a may be withdrawn from tube b and its open end immersed in petrol. 10

In Fig. 2 the absorbent material is contained in a tube a^2 closed at both ends and pushed into the outer tube b , the wick tube h extending through the inner end of this tube a^2 . The chamber e is formed in the outer tube b between the closed end of tube a^2 and the hinged lid n . The friction wheel i turns on a pin carried by lugs on the outer tube b and the flint k extends through the end of a recess o in the outer tube; it is subject to the pressure of spring l , adjustable by turning screw m . To saturate the absorbent material the tube a^2 is withdrawn and immersed in petrol which enters the tube through an aperture p . 15 20

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:— 25

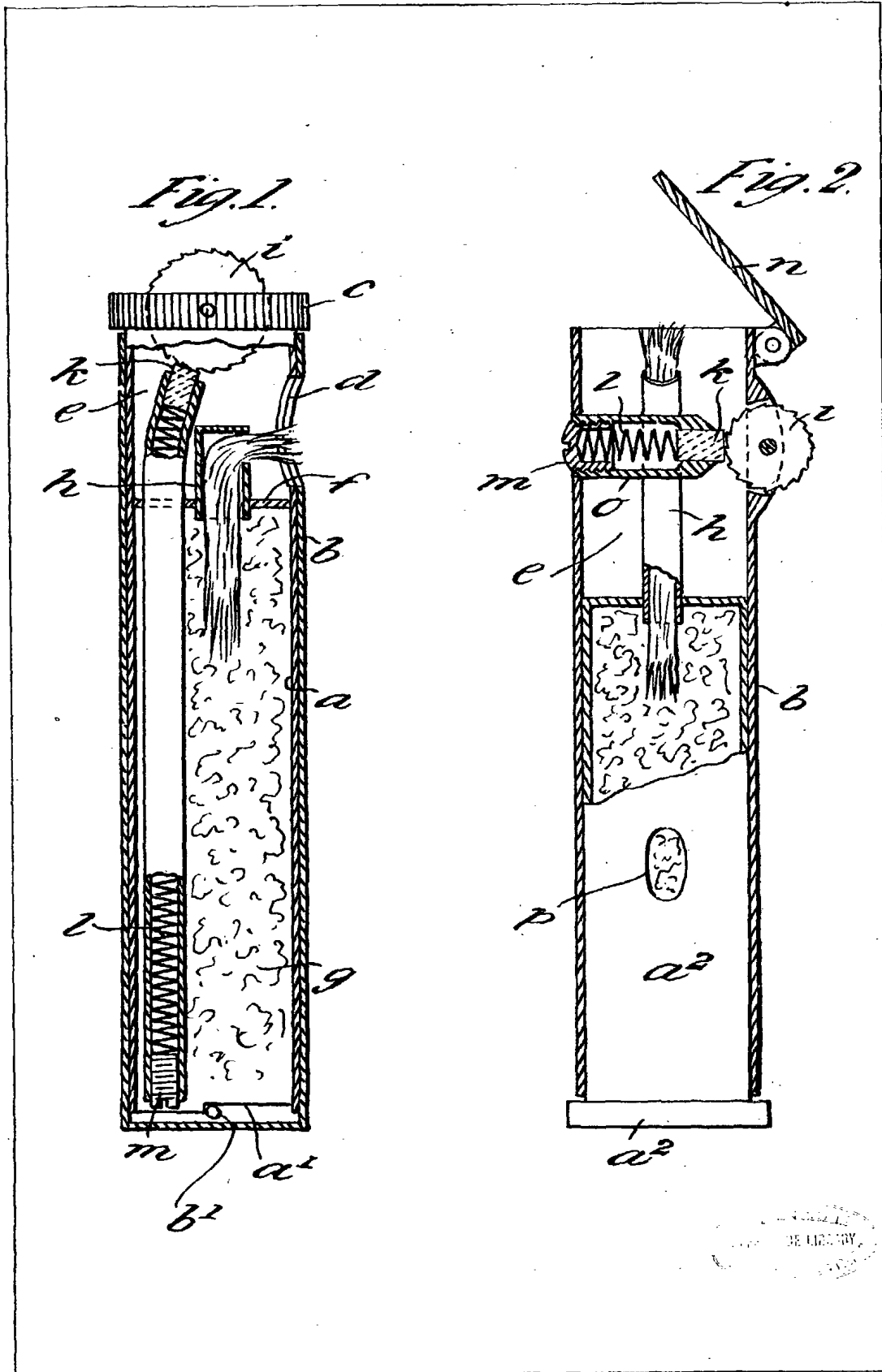
1. In a vapour lighter wherein the sparks are generated within a chamber containing the wick and separated by a diaphragm from the fuel, a friction wheel turning on a pin, which is mounted in the plate that closes the body tube or in lugs on the side of the tube, and extending through a slot, substantially as described. 30

2. A vapour lighter constructed and operating substantially as described with reference to Fig. 1 or Fig. 2 of the accompanying drawings. 35

Dated this 11th day of January, 1919.

ABEL & IMRAY,
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[This Drawing is a full-size reproduction of the Original.]



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